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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

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Unemployment Rate

Seasonally Adjusted
June*

ARIZONA	6.6%
Maricopa Co.	4.9%
Pima Co.	5.2%
UNITED STATES	7.3%

Consumer Price Index

National-May
1967 - Base Year

Wage Earner/Clerical Worker -	317.8
% Chg. Yr. Ago	4.1
All Urban -	321.3
% Chg. Yr. Ago	3.7

Phoenix-2nd Qtr. 1985
1977 - Base Year

All Urban -	190.8
% Chg. Yr. Ago	6.0

Producer Price Index

National-June*
1967 - Base Year

All Commodities	309.5
% Chg. Yr. Ago	-0.6
Finished Goods	294.0
% Chg. Yr. Ago	1.1

* Preliminary

ARIZONA EMPLOYMENT Peaks & Troughs: 1979-1984

The Arizona economy gained 246,000 jobs between August 1982 and December 1984. Some of these jobs were simply recovered from the previous recession, but 184,700 jobs can be considered new. Where did these new jobs come from? Most of them came from business services; retail trade; finance, insurance, and real estate (FIRE); and construction.

The Arizona economy realized an employment increase of 24.7 percent from August 1982 to December 1984, resulting in an increase of total nonagricultural wage and salary employment of 246,000. Although job losses were nearly 61,300 in the last recession, the net employment gain from the previous business cycle peak in December 1981 to December 1984 was 184,700. These new jobs came from different sectors and were unevenly distributed among different industries of the economy.

This article will describe the changes in nonagricultural wage and salary employment during the peaks and troughs that occurred in Arizona between 1979 and 1984. This time period included two peaks and one trough. The emphasis will be on the Arizona industries which had the largest gains or declines in both numerical and percentage terms. Comparisons with peak to trough, trough to peak, and peak to peak employment will be made on an industry division and/or subindustry level.

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Nancy Augustin, editor

The employment data used in this article were the monthly estimates of nonagricultural wage and salary employment provided by the Current Employment Statistics (CES) Survey and the Establishment Survey (ES-202), which are administered by the Research Administration of the Arizona Department of Economic Security, in cooperation with U.S. Bureau of Labor Statistics (BLS). Employment data for the U.S. during that period were also examined, and the peaks and troughs of major industry divisions or subdivisions were also noted for broad comparison purposes.

This section will analyze the declines and gains in industry employment in Arizona and the U.S. in rather broad terms between 1979 and 1984. Table 1 and Table 2 show the Arizona and the U.S. periods of peaks and troughs by month and percentage changes in nonagricultural employment in those periods. These two tables reveal that there were a number of similarities and differences in the timing of employment peaks and troughs, as well as in the depths of the declines and gains in the various industries in the U.S. and Arizona between 1979 and 1984. In general, Arizona had the greater number of peak employment levels in 1981, except in construction and trade. The U.S. had exhibited earlier peaks in total employment; manufacturing; and transportation, communication, and public utilities (TCPU); while Arizona had earlier peaks in construction and trade. The trough dates seem to coincide rather closely. Arizona had a larger percentage decline in employment between peaks and troughs, except for manufacturing. A huge percentage drop in mining and construction and moderately larger decreases in trade were responsible for the sharper decline in total nonagricultural wage and salary employment in Arizona as compared to the U.S. The steepest drops in industry employment in Arizona were in mining (44.7 percent), construction (30.7 percent), and TCPU (8.4 percent). In the U.S., the steepest declines were in durable manufacturing (18.9 percent), construction (17.3 percent), and nondurable manufacturing (8.5 percent).

On the other hand, Arizona accomplished larger percentage gains in employment in all major industries, except in mining, during the recovery period as compared to the U.S. A huge percentage increase in the construction and services industries and moderately larger percentage increases in other industry sectors were the driving force for sharper increases in total wage and salary employment in Arizona (24.7 percent) compared to the U.S. (8.9 percent). The sharpest increases in industry employment in Arizona were in construction (65.0 percent), services (31.7 percent), and retail trade (24.7 percent). The largest increases in U.S. employment came from construction (21.5 percent), durable manufacturing (12.9 percent), and retail trade (11.6 percent). The larger percentage gain

in Arizona employment compared to U.S. employment could be the indication of an underlying long-term strength of the Arizona economy. However, the larger percentage gain may be the result of a deeper downturn in Arizona than in the U.S. in 1982.

The construction industry in Arizona is the first in line to expand or contract when the economy turns up or down. The considerably larger percentage gain in construction employment in Arizona compared to the U.S. was primarily the result of a sharper increase in residential building construction. Even though the construction industry is characterized by its seasonality and its project orientation, it has some underlying strength primarily due to high population migration from other states of the country. This underlying strength is shown by the percentage increase in peak-to-peak employment of 12.5 percent.

The service industry in the U.S. grew, but at a slower rate than the Arizona service industry. Arizona employment growth in the service industry was most rapid between 1979 and 1984. The peak-to-peak percentage increase in the service industry (31.3 percent) is much higher than the percentage increase in total wage and salary employment (17.4 percent) for the state. Despite the deep recession in 1982, employment in the service industry did not drop significantly; instead, many industry groups or subdivisions within the service industry continued to grow during both recession and recovery. Within the service industry in Arizona, major employment increases were attributed to personnel services and computer data processing services. Hotels, rooming houses, camps, and other lodging places also contributed to a higher percentage increase in employment in the service industry.

The Arizona retail trade industry experienced a growth pattern similar to the U.S. Among all the major industries, eating and drinking places was the single largest one that contributed the highest number of jobs in Arizona. It provided 18,919 jobs between the last trough and December 1984. Other major retail trade businesses that created jobs in Arizona were the department stores, building materials, and hardware stores. The employment growth in both retail and wholesale trade was primarily because of the growing population here in Arizona.

Manufacturing employment increased in Arizona somewhat more rapidly than the U.S., because of a difference in composition in manufacturing. However, the peak-to-peak percentage increase in the manufacturing industry (9.6 percent) was less than the percentage increase in total wage and salary employment (17.4 percent) for the state. Among the durable manufacturing industry, stone, clay, glass, and concrete products; furniture and fixtures, along with lumber and wood products, experienced larger employment gains than others. The higher percentage increase in these types of durable manufacturing were primarily because of the growth in building construction. Paper and allied products and miscellaneous plastic products were the major nondurable manufacturing industries that created jobs in Arizona.

Employment in FIRE in Arizona increased (20.5 percent), a higher rate than in the U.S. (5.1 percent). Credit agencies and security brokers showed the sharpest percentage increase in employment in this sector. The finance and insurance sector grew more rapidly because of population growth, office and commercial construction, and in-interstate banks. FIRE, like the service industry, did not drop significantly during the recession and grew at a similar pace

with total nonagricultural wage and salary employment during the recovery period.

TCPU employment in Arizona also experienced a higher percentage increase compared to to the U.S., because of growth of the transportation sector. However, the peak-to-peak percentage increase in TCPU (10.4 percent) was almost half the percentage increase of total nonagricultural salary employment (17.4 percent). The sharp decline in communication employment, in both the recession and recovery period, was the primary cause of lower employment growth in TCPU in Arizona. The communication industry was indeed faced with a major restructuring during that period.

The mining industry in Arizona experienced the largest percentage (44.7 percent) decline in employment between June 1981 and September 1982. The industry is still declining despite the high rate of growth of employment in Arizona. Arizona mining consists primarily of copper mining, which has been troubled with structural and secular changes like weak copper demand, low world market prices, and strikes at major copper companies. The decline in mining employment in Arizona was further accentuated by the divesting of capital from this industry to other sectors of the economy.

In this section, we now turn to examining the gains in Arizona employment at more detailed--two-, three-, and four-digit--industry levels. These breakdowns are included because several of the three- and four-digit industries demonstrated a sizeable gain in employment which otherwise could not be differentiated. Table 3 lists the ranking of 20 industries with the largest employment gains. It shows that the largest numerical gains in employment came mostly from the service-producing sectors, such as eating and drinking places and personnel services, along with hotels, rooming houses, camps, and other lodging places. The major employment gains realized from the goods-producing sector were from the residential construction and from some durable-manufacturing industries such as semiconductors and related devices; stone, clay, glass, and concrete products; and lumber and wood products. Although the industries shown in Table 3 were the largest contributors in employment gains, they were not necessarily the most rapidly growing industry groups in creating employment. In fact, several smaller industry groups such as computer and data processing services increased their employment more rapidly than other industries. Table 4 lists the ranking of 20 industries with the largest percentage increase in employment that occurred between 1979 and 1984. Table 5 exhibits the Arizona trough and peak employment figures in detail, along with their respective numerical and percentage changes for most of the two- and three-digit industry levels which experienced significant cyclical gains between 1979 and 1984.

In summary, the Arizona economy experienced a larger percentage gain in employment in all the major industry divisions except mining, compared to the U.S., in the recovery period of 1982 through 1984. The larger percentage increase in Arizona employment compared to the U.S. is the result of an underlying long-term strength in the Arizona economy. Most of the increased employment in Arizona primarily came from the service-producing sector. The employment increase in the service-producing sector was more than twice the employment increase in the goods-producing sector. Among the service-producing sector, business services, retail trade, and credit agencies were the ones from which most of the Arizona jobs came during the last expansionary period.

Jalal Ahmad

TABLE 1: ARIZONA NONAGRICULTURAL EMPLOYMENT
PEAKS, TROUGHS, PEAKS
1979-1984

	Peak	Trough	Peak	%-Decline Peak to Trough	%-Gain Trough to Peak	%-Gain Peak to Peak
Total Wage & Salary	Dec. 1981	Aug. 1982	Dec. 1984	(5.8)	24.7	17.4
Mining	June 1981	Sep. 1982	Dec. 1984	(44.7)	(9.2)	(49.8)
Construction	Aug. 1979	Mar. 1982	Nov. 1984	(30.7)	65.0	12.5
Manufacturing	Aug. 1981	Dec. 1982	Dec. 1984	(7.8)	18.9	9.6
Durable	Aug. 1981	Dec. 1982	Dec. 1984	(8.8)	21.9	11.2
Nondurable	Aug. 1981	Nov. 1982	Nov. 1984	(5.0)	10.2	4.7
TCPU	June 1982	Aug. 1983	Dec. 1984	(8.4)	20.5	10.4
Trade	Dec. 1980	Aug. 1982	Dec. 1984	(4.0)	25.0	20.0
Wholesale	Dec. 1980	Aug. 1982	Dec. 1984	(5.4)	26.1	19.3
Retail	Dec. 1980	Aug. 1982	Dec. 1984	(3.7)	24.7	20.2
FIRE	June 1981	Jan. 1982	Dec. 1984	(0.5)	20.5	19.9
Services	Apr. 1981	Jan. 1982	Dec. 1984	(0.4)	31.7	31.3
Government	Apr. 1980	July 1982	Dec. 1984	(15.5)	23.0	4.0

SOURCE: Current Employment Statistics (CES) Survey, Research Administation, Arizona Department of Economic Security.

TABLE 2: U.S. NONAGRICULTURAL EMPLOYMENT
PEAKS, TROUGHS, PEAKS
1979-1984

	Peak	Trough	Peak	%-Decline Peak to Trough	%-Gain Trough to Peak
Total Wage & Salary	July 1981	Dec. 1982	Dec. 1984	(3.1)	8.9
Mining	**NO CYCLICAL CHANGE**			--	--
Construction	Jan. 1980	Mar. 1983	Dec. 1984	(17.3)	21.5
Manufacturing	June 1979	Dec. 1982	Dec. 1984	(14.7)	9.3
Durable	June 1979	Dec. 1982	Dec. 1984	(18.9)	12.9
Nondurable	June 1979	Feb. 1983	Dec. 1984	(8.5)	4.4
TCPU	Nov. 1979	Feb. 1983	Dec. 1984	(4.4)	5.8
Trade	Aug. 1981	Nov. 1982	Dec. 1984	(1.2)	10.5
Wholesale	Aug. 1981	Feb./May 1982	Dec. 1984	(3.4)	9.7
Retail	Aug. 1981	Jan. 1982	Dec. 1984	(1.1)	11.6
FIRE	July 1981	Nov. 1982	Dec. 1984	0.7	5.1
Services	July 1981	Nov. 1982	Dec. 1984	2.8	7.3

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

TABLE 3: 20 ARIZONA INDUSTRIES WITH LARGEST EMPLOYMENT GAINS FROM TROUGH TO PEAK

INDUSTRY GROUP	INDUSTRY DIVISION OR SUBDIVISION	EMPLOYMENT GAINS
Eating Places	Retail Trade	17,969
Personnel Services	Services	11,223
Electrical & Electronic Machinery	Durable Manufacturing	9,836
Electronic Components	Durable Manufacturing	8,721
Durable Wholesale Trade	Wholesale Trade	7,994
Semiconductors & Related Devices	Durable Manufacturing	7,182
Hotels, Rooming Houses, Camps & Other Lodging Places	Services	6,650
General Building Contractor-Residential Building	Construction	5.651
Department Stores	Retail Trade	5,024
General Building Contractors-Nonresidential Buildings	Construction	3,544
Nondurable Wholesale Trade	Trade	3,178
Stone, Clay, Glass & Concrete Products	Durable Manufacturing	2,983
Credit Agencies & Other Banks	FIRE	2,808
Fabricated Metals	Durable Manufacturing	2,381
Printing, Publishing & Allied Industries	Nondurable Manufacturing	2,332
Miscellaneous Shopping Goods Stores	Nondurable Manufacturing	2,301
Legal Services	Services	2,113
Building Materials, Hardware	Retail	2,029
Personal Services	Services	1,894
Lumber & Wood Products	Durable Manufacturing	1,855

TABLE 4: 20 ARIZONA INDUSTRIES WITH LARGEST PERCENTAGE GAINS FROM TROUGH TO PEAK

INDUSTRY GROUP	INDUSTRY DIVISION OR SUBDIVISION	PERCENTAGE GAINS
Personnel Services	Services	131.5
General Building Contractors-Residential Building	Construction	95.6
Paper and Allied Products	Nondurable Manufacturing	73.8
General Building Contractors-Nonresidential Buildings	Construction	60.8
Stone, Clay, Glass & Concrete Products	Durable Manufacturing	58.1
Computer & Data Processing Services	Services	49.1
Furniture & Fixtures	Durable Manufacturing	48.9
Electronic Components (not elsewhere classified)	Durable Manufacturing	45.2
Miscellaneous Plastic Products	Nondurable Manufacturing	45.2
Retail Nurseries	Retail Trade	45.1
Security Brokers, Dealers & Flotation Companies	FIRE	43.6
Credit Agencies & Other Banks	FIRE	41.9
Transportation Services	TCPU	40.0
Furniture, Home Furnishings & Equipment Stores	Retail Trade	38.0
Lumber & Wood Products	Durable Manufacturing	34.3
Electronic Components	Durable Manufacturing	31.7
Legal Services	Services	31.6
Fabricated Metals	Durable Manufacturing	31.3
Hotels & Rooming Houses	Services	30.0
Eating Places	Retail Trade	29.5

SOURCE (Above two tables): Establishment Survey (ES 202), Research Administration, Arizona Department of Economic Security

TABLE 5: TROUGHS AND PEAKS OF ARIZONA INDUSTRIES
SHOWING CYCLICAL CHANGES FROM 1982 THRU 1984

	Trough In 1982-83	Peak in 1984	Change in Employment	Percent Change
MINING AND QUARRYING	14,200	12,900	(1,300)	(9.2)
CONSTRUCTION				
Building Construction	13,972	23,684	9,712	69.5
General Building Contractors-Residential	5,913	11,564	5,651	95.6
General Building Contractors-Nonresidential	5,825	9,369	3,544	60.8
MANUFACTURING				
Durable Goods				
Lumber and Wood Products	5,416	7,271	1,855	34.3
Furniture & Fixtures	1,945	2,890	945	48.9
Stone, Clay, Glass and Concrete Products	4,979	7,872	2,893	58.1
Primary Metal Industries	6,500	7,581	1,081	16.6
Fabricated Metals	7,610	9,991	2,381	31.3
Machinery except Electrical	25,173	26,452	1,279	5.1
Electrical & Electronic Machinery	34,714	44,550	9,836	28.3
Communication Equipment	3,894	4,246	352	9.0
Electronic Components	27,529	36,250	8,721	31.7
Semiconductors and Relates Devices	24,376	31,558	7,182	29.5
Electronic Components (not elsewhere specified)	2,276	3,304	1,028	45.2
Nondurable Goods				
Food and Kindred Products	8,621	8,643	22	0.3
Apparel	4,803	5,185	382	8.0
Paper and Allied Products	1,074	1,867	793	73.8
Printing, Publishing and Related Industries	11,679	14,011	2,332	20.0
Chemical and Allied Products	3,199	3,600	401	12.5
Rubber and Miscellaneous Plastic Products	2,888	3,914	1,026	35.5
Miscellaneous Plastic Products	2,276	3,304	1,028	45.2
TRANSPORTATION, COMMUNICATION & PUBLIC UTILITIES				
Transportation Services	2,398	3,357	959	40.0
Communication	17,309	16,104	(1,205)	(7.0)
Telephone Communication	12,428	10,783	(1,645)	(13.2)
Electric, Gas and Sanitary Services	10,674	11,507	833	7.8
TRADE				
Wholesale Trade-Durable	30,180	38,174	7,994	26.5
Wholesale Trade-Nondurable	18,680	21,858	3,178	17.0
Retail Trade				
Building Materials, Hardware & Mobile Home Dealers	8,263	10,292	2,029	24.6
Lumber and other Building Material Dealers	4,810	6,098	1,288	26.8
Hardware Stores	1,158	1,361	203	17.5
Retail Nurseries	906	1,315	409	45.1
Department Stores	23,582	28,606	5,024	21.3
Motor Vehicle Dealers	8,926	10,867	1,941	21.7
Auto and Home Supply Stores	6,003	6,738	735	12.2
Gasoline Service Stations	7,165	7,833	668	9.3
Furniture, Home Furnishings & Equipment Stores	3,124	4,309	1,185	38.0
Eating and Drinking Places	64,915	83,834	18,919	29.1
Eating Places	60,865	78,834	17,969	29.5
Drinking Places	4,005	5,000	995	24.8
Miscellaneous Shopping Goods Stores	8,293	10,594	2,301	27.7
FINANCE, INSURANCE AND REAL ESTATE				
Banking	20,227	22,003	1,776	8.8
Credit Agencies and Other Banks	6,709	9,517	2,808	41.9
Security Brokers, Dealers & Flotation Companies	1,508	2,166	658	43.6
Insurance Agents, Brokers and Service	5,333	6,511	1,178	22.1
Real Estate Operators	6,319	7,315	996	15.8
SERVICES AND MISCELLANEOUS				
Hotels, Rooming Houses, Camps & Other Lodging Places	22,249	28,899	6,650	30.0
Personal Services	13,365	15,259	1,894	12.3
Personnel Services	8,531	19,754	11,223	131.5
Computer and Data Processing Services	3,439	5,129	1,690	49.1
Motion Pictures	1,612	1,639	27	1.7
Amusement & Recreation Services-Except Motion Pictures	9,288	10,506	1,218	13.1
Health Services	59,600	70,200	10,600	17.8
Legal Services	6,687	8,800	2,113	31.6

NOTE: Numbers may not add up because peaks and troughs of Industry subdivisions may not coincide with peaks and troughs of that major industry.

SOURCE: Establishment Survey (ES-202), Research Administration, Arizona Department of Economic Security.

UNEMPLOYMENT INSURANCE: THE GOLDEN ANNIVERSARY

With the Unemployment Insurance (UI) system commemorating its 50th anniversary on August 14, it is an appropriate time to reflect on the contribution the system has made to Arizona's economy. The federal-state cooperative system of unemployment insurance was initiated by the Social Security Act of 1935 and subsequent legislation passed by the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Funded primarily by employer tax contributions, the UI system is designed to replace income lost and reduce the economic hardship that occurs when workers lose their jobs.

The Arizona UI program was established in 1936, and by 1938 the system had sufficient funds to begin paying benefits. In that first year, about $1.8 million was distributed to UI recipients in Arizona, compared to over $213 million in 1982. These figures suggest that UI payments have a substantial impact on the regional economy, especially in recent years.

In assessing the impact of UI programs, an economist may suggest that the overall impact is neutral. Since the benefits are paid from funds generated by payroll taxes, they are merely "transfer payments" from one group to another. In fact, one might argue that the maintenance of a trust fund totaling many millions of dollars drains money away that could have been paid directly to workers, or perhaps invested in job-creating plant and equipment.

These claims do not hold up when Arizona's UI program is examined. Table 1 demonstrates that over $1.2 billion in benefits have been paid out over the last 10 years, with a net positive contribution of over $365 million to state personal income during the period. While these numbers are impressive, they understate the countercyclical (i.e., anti-recession) effects of the UI program, and they fail to illustrate the social and human impact of the program, much of which is difficult to measure.

A chronology of program activity shows the significant impact that UI has had since 1975, particularly during periods of severe recession. During 1975 and 1976, for example, when unemployment in Arizona soared as high as 13 percent of the labor force, over $300 million in benefits were distributed when they were needed the most, while employers were taxed only $70 million at a time when they could least afford to contribute. The net injection of $231 million in 1975 was equal to nearly two percent of total personal income in Arizona that year. A total of 174,506 UI claimants were served during 1975, or nearly 18 percent of the state's labor force at the time.

From 1977 through 1981, Arizona enjoyed a period of rapid economic expansion and relatively low unemployment. With the employers in the state in healthier condition, their contributions to the UI system increased while benefits paid declined from the levels observed during the prior recession. This combination of factors allowed the severely depleted UI trust fund balance to rise by $245 million. Considering the extraordinary rate of economic growth in Arizona over that five year period, it is difficult to claim that the economy suffered much of a negative impact from UI taxes.

The years 1982 and 1983 brought back conditions which demonstrate how important the UI system is during economic recessions. Over $400 million in benefits were paid while about $129 million was contributed by employers. Two hundred thousand claimants were served during 1982, comprising nearly 15 percent of the Arizona labor force.

The $1.2 billion in benefits paid by the Arizona UI program since 1975 represents

only a portion of the positive impact of the UI system. The main objective of unemployment insurance is to help maintain a floor of household income when workers lose their jobs due to changes in economic conditions. Even if UI payments replace only 40 to 50 percent of net wages, they often represent the major method of meeting the basic needs of the unemployed for food and shelter, with the only alternative being an incalculable burden on public assistance programs. The state in general continues to benefit indirectly from the economic impact of the expenditures made by UI recipients, including millions of dollars in sales tax revenues, and these benefits are even more critical during recessions. There is no doubt that the hundreds of millions of dollars pumped into Arizona's economy by the UI program during the last two recessions prevented additional thousands of workers from losing their jobs.

The Arizona UI program has had a significant positive impact on the state economy for all these reasons; in addition, the program has produced a net surplus of funds for the following reasons:

- The many jobs lost in Arizona due to foreign competition and the extended duration of unemployment for many workers in these industries has made many Arizonans eligible for federally-funded benefit programs during the last 10 years.

- As a rapidly expanding state with a growing economy, Arizona attracts many more UI claimants from other states than it exports to other states.

- High interest rates have enabled the trust fund to earn significant returns in recent years.

As a result, the 10-year net benefit of $365 million, or about $37 million per year, represents a reasonable, conservative estimate of the value of the UI program to the state economy. In 1983, the U.S. Department of Labor published a research paper titled "The Effects of Aggregate Unemployment Insurance Benefits in the U.S. on the Operation of a Local Economy." The study, prepared by Ronald Oaxaca and Carol Taylor of the University of Arizona, measured the effects of UI payments on regional economic activity, focusing on Maricopa County during 1975-1976, a period of high unemployment in the Phoenix area.

Oaxaca and Taylor used an econometric model of the local economy to simulate the impact of UI benefits on employment, income, and sales. They discovered that the Phoenix area economy is somewhat more cycle-sensitive than the national economy; as a result, UI benefit payments have a proportionately greater impact on Maricopa County than on the U.S. as a whole. The researchers estimated that wage and salary employment in the U.S. would have been reduced by about 0.5 percent in the absence of UI benefits, while the absence of the UI system would have cost Maricopa about 2.2 percent of its wage and salary jobs.

The combined impact of the state and federal UI programs during 1975-1976 was based on spending by households receiving UI benefits during that period. In Maricopa County, about 19,000 jobs were generated by the multiple effects of UI payments on the local economy. Disposable personal income was raised by about 3.2 percent over the level that would have existed if there were no UI programs.

It is clear that, when the direct and indirect effects of the UI system are examined, unemployment insurance provides a significant economic buffer during periods of recession. The indirect economic benefits, combined with the reduction of the social and psychological stress associated with the human tragedy of unemployment, are immeasurable.

Brian Cary

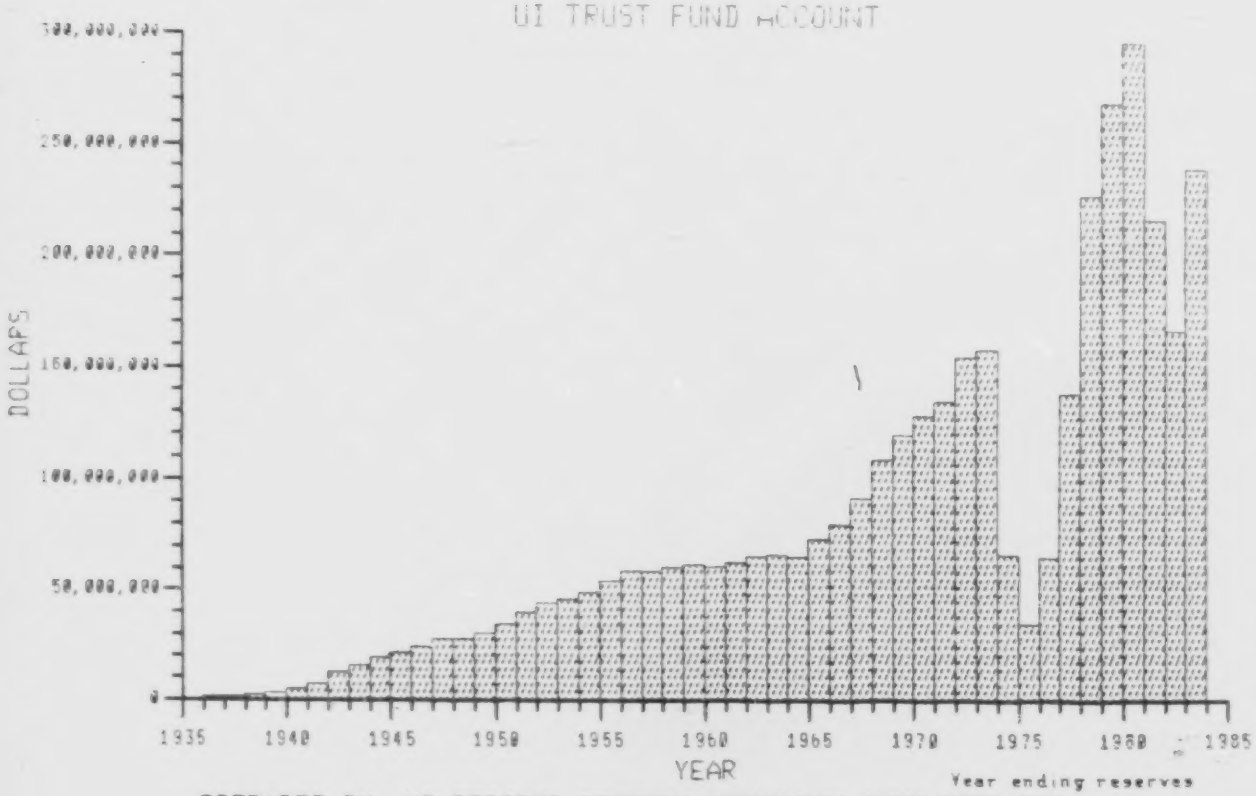
NET ARIZONA UI PROGRAM ACTIVITY
1975-1984

	Benefits Paid All Programs	Employer Contributions	Change In Trust-Fund Balance	Net Income Added To Arizona's Economy
1975	$ 170,554,280	$ 27,001,642	$-88,108,152	$ 231,660,789
1976	136,756,764	43,341,276	-32,841,045	126,256,533
1977	71,328,801	78,492,622	+30,793,440	-37,957,261
1978	66,569,963	97,578,492	+70,933,948	-101,942,477
1979	52,938,661	107,042,814	+90,661,103	-144,765,256
1980	97,653,284	87,086,118	+37,378,727	-26,811,561
1981	98,082,776	70,891,421	+15,313,939	+11,877,417
1982	213,110,274	62,611,596	-75,285,939	+225,784,617
1983	202,146,716	66,327,644	-37,840,016	+173,656,085
1984	104,946,156	124,940,248	+72,698,403	-92,692,495
TOTAL	1,124,087,672	765,313,874	+83,704,407	365,069,391

SOURCE: Arizona Department of Economic Security, Research Administration, UI Reports, July 1985.

ARIZONA DEPARTMENT OF ECONOMIC SECURITY
UNEMPLOYMENT INSURANCE ADMINISTRATION

UI TRUST FUND ACCOUNT



PREPARED BY: UI REPORTS SECTION, RESEARCH ADMINISTRATION

THE ARIZONA LABOR FORCE IN JUNE

A combination of job losses among high technology manufacturers and increasing migration to the state pushed total unemployment to 98,300 people, its highest level since October 1983. Although 17,400 jobs were lost between May and June, those losses were expected as schools closed for the summer and released noncontract staff. Coupled with slower resort business in the desert areas, total employment levels usually are reduced until September or October. While that is clearly happening again, the increase in the unemployment rate from 6.1 to 6.6 percent is being dominated by new migrants to the state who arrive here predominately in the summer.

For the second month in a row, the machinery sector of manufacturing lost employment. Led by the electronics subsector where semi-conductor firms continue to face declining demand, a total of 500 jobs were lost. If it were not for the fact that the defense-dominated sector of aerospace added 600 employees, our high technology employers would be suffering serious problems. The outlook is for more of the same in the months ahead. Except for seasonal expansions in aggregates and lumber, the manufacturing sector will be influenced by expanding defense purchases and declining electronics sales. Since electronic employment is greater than aerospace, the overall direction in manufacturing shows a slight decline.

Construction employment increased by 100 in June, its smallest increase since December of last year when a small decrease was recorded. Lower interest rates are expected to keep single family housing strong into next year, but rising vacancy rates in multi-family and commercial real estate coupled with uncertainty over tax law changes will likely begin to have an overall depressing effect on construction. It is truly amazing that in the last 2-1/2 years, this industry has grown 67 percent. Services is a distant second at 31 percent.

The balance of the economy produced expected results in June. Copper mining declined again, losing another 100 jobs. At this point, except for a handful of companies who are holding their own, the industry continues to slowly slide downward.

In trade, services, and government, the arrival of hot summer weather reduced jobs in the desert areas while northern counties saw rising employment levels. Particularly hard hit were hotels, restaurants, and schools. But that is expected and their employment will remain down until fall arrives. On the positive side, firms dealing in the sales and servicing of autos saw a jump in employment while the recently strong business-services sector added another 800 jobs. In the last year, 5,600 new jobs have been added in business services. But most of that growth continues to be in the potentially volatile temporary help agencies. If cutbacks begin to occur, this sector is particularly vulnerable.

Arizona's economy has entered a period of transition. Migration to the state is strong but employment growth is declining. In manufacturing, defense-related businesses face rising demand while electronics companies generally are reducing production and in some cases implementing limited layoffs. Lower interest rates should help to sustain residential construction, but rising vacancy rates among multi-family and commercial structures will surely work to reduce employment overall in the industry. And while continued population growth will help to keep services and retail trade strong, a weakened economy will impact adversely on them, making them less strong than they would otherwise be.

Compared to nine months ago, the employment picture is a mixture of pluses and minuses. But at this point in the business cycle, that is the expected situation as different industries reach their peaks and then decline at different rates. Employment growth will likely be less than a year ago, with unemployment rising due to increased migration. On the surface that might be reason for concern, but Arizona's economy, particularly in the Phoenix and Tucson areas, remains viable.

Dan Anderson

June 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Jun.* 1985	May. 1985	Jun. 1984	May. to Jun.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE**	1443.6	1458.6	1424.4	-15.0	+19.2
Total Unemployment	98.3	86.7	77.3	+11.6	+26.0
Rate	6.8	5.9	5.1	---	---
Rate (Sea. Adj.)***	6.6	6.1	4.8	---	---
Total Employment	1345.3	1371.9	1352.1	-26.6	-6.8

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

TOTAL WAGE AND SALARY	1247.2	1264.6	1168.9	-17.4	+78.3
Manufacturing	182.1	181.6	172.5	+0.5	+9.6
Durable Goods	144.7	144.1	136.2	+0.6	+8.5
Stone, Clay and Glass	8.3	8.1	7.5	+0.2	+0.8
Primary and Fabricated Metals	17.0	17.1	16.3	-0.1	+0.7
Primary Metals	7.2	7.3	6.9	-0.1	+0.3
Fabricated Metals	9.8	9.8	9.4	+0.0	+0.4
Machinery	70.8	71.3	68.1	-0.5	+2.7
Other Durable Goods	48.6	47.6	44.3	+1.0	+4.3
Aircraft and Missiles	21.9	21.3	19.9	+0.6	+2.0
Lumber and Wood Products (Except Furniture)	7.6	7.4	7.3	+0.2	+0.3
All Other Durable Goods	19.1	18.9	17.1	+0.2	+2.0
Nondurable Goods	37.4	37.5	36.3	-0.1	+1.1
Food and Kindred Products	8.0	7.9	7.7	+0.1	+0.3
Apparel	4.7	4.6	5.1	+0.1	-0.4
Printing and Publishing	14.3	14.4	13.4	-0.1	+0.9
All Other Nondurable Goods	10.4	10.6	10.1	-0.2	+0.3
Mining and Quarrying	11.3	11.4	13.6	-0.1	-2.3
Copper Mining	8.6	8.7	10.8	-0.1	-2.2
Other Mining and Quarrying	2.7	2.7	2.8	+0.0	-0.1
Construction	110.4	110.3	98.4	+0.1	+12.0
Trans., Communications, and Public Utilities	62.8	62.5	60.3	+0.3	+2.5
Transportation	28.9	28.9	27.7	+0.0	+1.2
Communication and Public Utilities	33.9	33.6	32.6	+0.3	+1.3
Trade	301.6	303.0	283.1	-1.4	+18.5
Wholesale Trade	62.8	62.9	58.0	-0.1	+4.8
Retail Trade	238.8	240.1	225.1	-1.3	+13.7
General Merchandise and Apparel	38.0	38.6	37.4	-0.6	+0.6
Food Stores	36.6	36.7	34.4	-0.1	+2.2
Automotive and Service Stations	29.1	28.7	27.3	+0.4	+1.8
Eating and Drinking Places	84.2	84.9	79.0	-0.7	+5.2
Other Retail Trade	50.9	51.2	47.0	-0.3	+3.9
Finance, Insurance, and Real Estate	76.4	75.9	72.4	+0.5	+4.0
Services and Miscellaneous	297.1	297.2	276.4	-0.1	+20.7
Hotels and Other Lodging Places	31.3	32.2	27.8	-0.9	+3.5
Business Services	67.5	66.7	61.9	+0.8	+5.6
Health Services	71.7	71.3	69.0	+0.4	+2.7
Other Services	126.6	127.0	117.7	-0.4	+8.9
Government	205.5	222.7	192.2	-17.2	+13.3
Federal	41.1	41.4	39.5	-0.3	+1.6
State and Local	164.4	181.3	152.7	-16.9	+11.7
School	91.4	110.0	82.1	-18.6	+9.3

* Preliminary
** Labor force, unemployment, and employment are reported by place of residence.
*** Normal seasonal variations have been eliminated to reflect underlying economic trends.
NOTE--Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

June 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Jun.* 1985	May. 1985	Jun. 1984	May. to Jun.	1984 to 1985	Jun.* 1985	May. 1985	Jun. 1984	May. to Jun.	1984 to 1985
915.0	925.6	897.4	-10.6	+17.6	259.0	265.5	260.0	-6.5	-1.0
45.2	41.8	34.2	+3.4	+11.0	13.8	13.1	10.9	+0.7	+2.9
4.9	4.5	3.8	---	---	5.3	4.9	4.2	---	---
4.9	4.6	3.6	---	---	5.2	5.1	4.0	---	---
869.8	883.8	863.2	-14.0	+6.6	245.2	252.4	249.1	-7.2	-3.9

E USED FOR ECONOMIC ASSISTANCE PROGRAMS

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

821.6	829.7	760.6	-8.1	+61.0	225.1	230.7	213.2	-5.6	+11.9
132.1	132.1	124.9	+0.0	+7.2	31.4	31.0	29.3	+0.4	+2.1
106.0	106.0	99.6	+0.0	+6.4	26.3	26.0	24.4	+0.3	+1.9
5.0	4.9	4.4	+0.1	+0.6					
11.4	11.4	10.3	+0.0	+1.1					
56.9	57.4	54.9	-0.5	+2.0					
32.7	32.3	30.0	+0.4	+2.7					
26.1	26.1	25.3	+0.0	+0.8	5.1	5.0	4.9	+0.1	+0.2
5.3	5.2	5.3	+0.1	+0.0					
2.9	2.9	3.1	+0.0	-0.2					
10.5	10.5	9.8	+0.0	+0.7					
7.4	7.5	7.1	-0.1	+0.3					
0.6	0.6	0.6	+0.0	+0.0	2.5	2.5	3.8	+0.0	-1.3
76.6	77.0	67.6	-0.4	+9.0	21.2	20.8	18.4	+0.4	+2.8
41.5	41.3	38.8	+0.2	+2.7	8.9	8.9	9.1	+0.0	-0.2
19.8	19.7	18.4	+0.1	+1.4	4.1	4.1	4.2	+0.0	-0.1
21.7	21.6	20.4	+0.1	+1.3	4.8	4.8	4.9	+0.0	-0.1
204.8	205.7	191.9	-0.9	+12.9	49.9	50.1	47.1	-0.2	+2.8
50.1	49.8	46.5	+0.3	+3.6	7.5	7.4	6.6	+0.1	+0.9
154.7	155.9	145.4	-1.2	+9.3	42.4	42.7	40.5	-0.3	+1.9
23.5	23.9	23.5	-0.4	+0.0	7.4	7.5	7.3	-0.2	+0.1
23.2	23.4	22.0	-0.2	+1.2	5.9	5.8	5.5	+0.1	+0.4
18.6	18.4	17.2	+0.2	+1.4	4.5	4.5	4.4	+0.0	+0.1
54.2	54.8	50.4	-0.6	+3.8	15.6	15.8	15.0	-0.2	+0.6
35.2	35.4	32.3	-0.2	+2.9	9.0	9.0	8.3	+0.0	+0.7
59.7	59.3	56.5	+0.4	+3.2	10.7	10.6	10.2	+0.1	+0.5
200.8	202.0	186.0	-1.2	+14.8	55.6	55.2	50.6	+0.4	+5.0
18.4	19.5	15.6	-1.1	+2.8	4.5	4.7	4.2	-0.2	+0.3
54.9	54.3	51.3	+0.6	+3.6	9.8	9.7	8.3	+0.1	+1.5
47.7	47.8	46.8	-0.1	+0.9	15.5	15.0	14.0	+0.5	+1.5
79.8	80.4	72.3	-0.6	+7.5	25.8	25.8	24.1	+0.0	+1.7
105.5	111.7	94.3	-6.2	+11.2	44.9	51.6	44.7	-6.7	+0.2

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES
LABOR FORCE AND EMPLOYMENT
June 1985

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	16,325	28,200	37,500	12,575	7,350	2,125	4,500
Total Unemployment	3,550	2,400	4,750	1,475	900	400	625
Rate	21.7%	8.5%	12.7%	11.7%	12.2%	18.8%	13.9%
Rate (Seas. Adj.)**. . . .	20.7%	8.3%	11.9%	12.3%	11.9%	19.5%	-INA-
Total Employment	12,775	25,800	32,750	11,100	6,450	1,725	3,875
THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS							
TOTAL WAGE AND SALARY. . . .	14,700	22,775	33,725	9,825	4,375	1,750	2,425
Manufacturing.	725	1,875	2,625	1,275	150	25	75
Mining and Quarrying	25	175	50	1,625	50	650	0
Construction	1,025	1,375	1,625	425	150	100	75
Trans., Comm., & Pub. Util..	1,825	1,450	2,300	300	150	50	50
Trade.	1,350	4,875	8,050	1,925	1,300	300	825
Fin., Insur., & Real Estate.	275	650	775	225	150	25	100
Services and Miscellaneous .	4,525	3,050	8,850	1,850	775	100	625
Government	4,950	9,325	9,450	2,200	1,650	500	675

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	23,900	26,575	31,150	8,825	32,625	37,900
Total Unemployment	2,450	4,950	4,500	1,650	2,000	9,725
Rate	10.3%	18.6%	14.4%	18.7%	6.1%	25.7%
Rate (Seas. Adj.)**. . . .	10.3%	17.7%	13.9%	18.3%	6.4%	-INA-
Total Employment	21,450	21,625	26,650	7,175	30,625	28,175
THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS						
TOTAL WAGE AND SALARY. . . .	17,875	18,550	24,725	7,825	19,925	22,150
Manufacturing.	2,300	1,825	3,150	925	2,225	1,450
Mining and Quarrying	275	1,100	3,600	0	625	75
Construction	1,575	925	1,075	300	1,975	2,000
Trans., Comm., & Pub. Util..	1,125	1,600	1,150	550	875	900
Trade.	5,200	3,575	4,475	3,175	5,300	6,575
Fin., Insur., & Real Estate.	875	375	675	250	825	850
Services and Miscellaneous .	3,700	5,025	2,825	1,200	4,050	4,150
Government	2,825	4,125	7,775	1,425	4,050	6,150

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
June 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,443,613	1,345,264	98,349	6.8%
Apache	16,320	12,765	3,555	21.8
Cochise	28,206	25,811	2,395	8.5
Coconino	37,500	32,747	4,753	12.7
Gila	12,579	11,095	1,484	11.8
Graham	7,362	6,462	900	12.2
Greenlee	2,112	1,705	407	19.3
La Paz	4,494	3,875	619	13.8
Maricopa	915,025	869,850	45,175	4.9
Mohave	23,894	21,450	2,444	10.2
Navajo	26,566	21,628	4,938	18.6
Pima	259,042	245,228	13,814	5.3
Pinal	31,159	26,653	4,506	14.5
Santa Cruz	8,820	7,179	1,641	18.6
Yavapai	32,630	30,638	1,992	6.1
Yuma	37,904	28,178	9,726	25.7

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
June 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	JUNE* 1985	MAY 1985	JUNE 1984	JUNE* 1985	MAY 1985	JUNE 1984	JUNE* 1985	MAY 1985	JUNE 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	389.86	387.28	364.00	40.4	40.3	40.4	9.65	9.61	9.01
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	349.40	332.52	299.12	42.3	40.8	39.1	8.26	8.15	7.65
Primary Metals	504.80	501.14	510.47	40.0	39.9	41.2	12.62	12.56	12.39
Machinery	342.68	344.60	332.03	39.8	39.7	40.1	8.61	8.68	8.28
Copper Mining	561.60	565.04	551.26	41.6	41.7	41.2	13.50	13.55	13.38
Construction	421.37	421.56	433.84	35.8	36.0	37.4	11.77	11.71	11.60
Utilities	570.71	570.71	522.40	43.4	43.4	42.3	13.15	13.15	12.35
Retail Trade**	254.90	244.64	225.81	35.6	35.2	35.9	7.16	6.95	6.29
Wholesale Trade	354.93	350.62	355.94	37.4	37.5	38.9	9.49	9.35	9.15

* Preliminary
** Excludes eating and drinking places.
NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

EMPLOYERS SUPPORT PRE-LAYOFF TEAM APPROACH

On March 7, 1985, three representatives from the U.S. General Accounting Office (GAO) visited Phoenix to learn how Arizona designed and implemented Pre-layoff Assistance. At a meeting coordinated by Title III Dislocated Worker staff, the federal workers met the people who make it work--the Pre-layoff Assistance Coordination Team (PACT). The team consists of representatives from the Arizona Dislocated Worker Program, Unemployment Insurance, and Job Service.

Upon the request of a company facing a layoff or closure, the team responds as a cohesive unit, with each program contributing its input and services. At the company site and on company time, the affected employees are assessed, registered, and advised of the options open to them. They are informed that services will be available to them until they are re-employed. In some cases, a full array of placement services can be provided at the company site.

What this approach means to the affected company and its employees was the subject of a panel discussion by representatives from three major employers who had participated in Pre-layoff Assistance. They were: Robert Cozad, general manager, Ingersoll Rand Corporation of Tucson; George Lopez, personnel director, Gates Learjet Corporation, Tucson; and Richard Kloster, manager of employment, Garrett Turbine Engine Company of Phoenix.

Circumstances of plant closure or layoff and the number of affected employes varied considerably among the companies, as did the PACT approach; but the panel participants were in complete agreement on several issues. For example, there is no established managerial technique for planning and carrying out a layoff. It is a last resort, and even if management is aware of this necessity months in advance, historically, employees have not been notified until the last moment. It was once believed that to do otherwise would adversely affect production. Employee reaction to being "shown the door" with little or no preparation can be traumatic and can create ill feelings. The employee may view the company as uncaring and a bad place to work.

As an alternative, but with some misgivings, the companies at the GAO meeting had opted to try a different approach. They explained the circumstances that forced the layoff to their employees and worked with them to make plans for the future. The PACT provided assistance, from resume writing to retraining, and in some cases job placement in other companies prior to separation.

Production did not slow down; in one case, it doubled. There was no increase in absenteeism. The managers were surprised to find that any effort expended in pre-layoff assistance returned directly to the company. Morale remained high, and employees thanked them for caring. Even workers not scheduled for layoff expressed appreciation and extended themselves to increase production.

The employers were in agreement on the cost effectiveness of this alternative and also on the emotional benefit. There were estimates of large savings in U.I. benefits, training costs, corporate benefits, and other less tangible social programs. The point was also stressed that companies often hire private consultants, at a high cost, to provide pre-layoff assistance with less positive results than that provided by Arizona's PACT.

The emotional impact on the employee was of particular concern. Studies indicate that persons who are abruptly terminated from employment suffer higher incidences of alcoholism, divorce, family abuse, and suicide than the general population. Those employees who left with company support and backing did so with good feelings and a positive attitude. As panelist Robert Cozad stated, "A good employer worries about his employees after the end of the shift."

For more information on the PACT or pre-layoff assistance, contact the Job Training Partnership Act (JTPA) Title III staff at Department of Economic Security, JTPA-Site Code 920Z, P. O. Box 6123, Phoenix, Arizona 85005 or call 255-3957.

SOURCE: Reprint from Arizona Employment and Training Institute (ETI) Newsletter, July 1985.

1985 OCCUPATIONAL EMPLOYMENT SURVEY OF NON-MANUFACTURING INDUSTRIES

For the tenth consecutive year, members of the Department of Economic Security, Research Administration staff, will be contacting certain Arizona employers for the purpose of updating occupational data by industry.

The Occupational Employment Statistics (OES) program is a federal-state cooperative triennial program to determine current occupational employment and to estimate demand for occupational skills by industry.

In 1985, the Research Administration staff will collect data from the following industries: transportation (including travel agencies and warehouses), communications (including radio and television), public utilities, retail trade, wholesale trade, educational services (including libraries), and state and local government.

The OES staff has, over the last three years, successfully surveyed nearly 16,000 firms with more than 800,000 employees. Employers are asked through personal interview or mailout questionnaire to provide a count of their employees by occupation. The cooperation of Arizona's businesses and industries has contributed to survey response rates consistently over 90%--thus ensuring more reliable projections of our state's manpower needs.

When the surveying is completed, the information is tabulated and organized to furnish a clear representation of the occupational makeup of all Arizona industries. It is this information that is needed to develop an employment outlook for the years ahead--that is, what jobs are going to be in demand and what jobs are disappearing. Employment information developed by the OES program has established itself as an integral part of Arizona's education and manpower planning efforts.

If you would like more information on the OES program, or would like to receive copies of the Occupational Profiles which summarize survey results, telephone 255-3876. Outside the Phoenix metropolitan area, but within Arizona, call 1-800-321-0381.

John Wilson

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - MAY 1985

	May 1985	April 1985	May 1984	From One Year Ago
Arizona Claimants Served*	27,528	25,374	27,157	+ 1.4%
Arizona Average Weeks Unemployed**	9.0	8.9	8.3	+ 8.4%
Arizona Benefits Paid*	$ 9,353,537	$ 7,611,795	$ 8,837,930	+ 5.8%
Arizona Trust Fund Balance	$301,169,885	$266,088,244	$212,568,755	+41.7%

*All Programs **UI Only

LEADING ECONOMIC INDICATORS

The following is a reprint of an article which appeared in the March 29, 1985 Federal Reserve Bank of San Francisco's FRBSF Weekly Newsletter. The author is James A. Wilcox, who discusses the Index of Leading Economic Indicators (ILI) and asks the question, "Has the ILI Receded?"

Movements in the Index of Leading Economic Indicators (ILI), compiled by the Department of Commerce, typically garner front-page attention. Every wiggle is analyzed by government and business economists for signals about the future health of the economy with good reason. Each post-war business cycle peak (and trough) has been

preceded by a significant decline (and rise) in the ILI. The current recovery is no exception: eight months prior to the beginning of the upswing in December 1982, the ILI began to rise.

"Noise" and News

There are, however, at least two difficulties with using the index as a forecasting aid. The first is that, except with the benefit of sufficiently long hindsight, it is often difficult to judge at the time it occurs whether an upturn or downturn in the index will be sustained. The index often exhibits short-term swings that are soon reversed. Since May 1984, for example, the ILI has changed direction six times. To filter out this "noise" in the numbers, analysts often apply rules-of-thumb. A common rule is that a change in the direction of the index lasting at least three consecutive months constitutes a signal of recession or recovery to come. On this basis, initial estimates of the index in 1984 signalled a recession--they declined in June, July, and August. But just-released revisions of the index now show that it rose in August. Thus, there were only two consecutive months of decline rather than three.

The second difficulty in interpreting the ILI is that the future it may help to predict is somewhat indefinitely far ahead. Major downturns in the ILI, for example, have occurred anywhere from three to 23 months ahead of actual downturns. Upturns in the index have started from one to eight months before the economy bottomed out. The problems of judging sustained changes in the index and of the relatively short average leadtime between turns in the index and turns in the economy (particularly for troughs) have led some analysts to argue that the principal value of the ILI lies in its ability to identify the current state of the economy. Since much economic data are available only after the fact and since they often are subject to substantial revisions, even being able to "predict" the present is valuable.

Construction of ILI

Despite these reservations, the ILI has the advantage of diversification: it is a composite index made up of many different series. Movements in economic activity originate from different sources at different times and the response of the economy to any given stimulus may itself vary over time. By including a wide range of series covering many different activities, the composite index is more likely to detect important changes in the level of aggregate economic activity, regardless of the source of those movements.

From time to time, the series used to construct the ILI have changed. The last major revision took place in 1975 when a number of series were specified in real, or constant dollar, terms rather than in current dollar terms. Since then, new weights have been assigned to the individual series in light of past experience, and the definitions of some of the series have changed. The 12 series currently used to construct the composite index were selected on the basis of six criteria: (1) economic significance, (2) statistical adequacy, (3) consistency of timing at business cycle peaks and troughs, (4) conformity to the business cycle generally, (5) smoothness, and (6) prompt availability of data.

The significance criterion emphasizes series that represent what are thought to be important sources of business cycle movements. Statistical adequacy requires that the available data series faithfully measure movements in those sources. The requirement of consistency focuses attention on series that have reliably turned upward and downward prior to troughs and peaks in overall economic activity. Conformity refers to how consistently a series moves with the overall pattern of activity, not just at business cycle turning points. The smoothness criterion gives emphasis to series whose changes in direction are likely to be maintained. And the availability criterion ensures that the data for the series are available soon after the fact.

The different series reflect developments in many areas of the economy: in labor markets (new unemployment insurance claims, average weekly hours in manufacturing); in financial markets (common stock prices, real money supply, percent change in private credit); in residential construction

(new building permits); in business activity (net business formation, real value of contracts and orders for plant and equipment, change in real inventories on hand and on order, real value of new orders for consumer goods, percent of companies receiving slower deliveries); and in prices (percent change in sensitive materials prices).

The recent surge in U.S. imports provides a vivid example of why a broadly based ILI generally provides better signals than any one of its component series. Import penetration has been concentrated in goods rather than services. (It's not difficult for Americans to buy French autos; it is more difficult to buy French taxi rides, unless one goes to France.) This has been especially true in the business equipment industry. About one-quarter of total expenditures by domestic business for durables recently has been for foreign items. Thus, looking at orders alone would suggest weakness in the U.S. economy.

This, however is not the case. The strength of demand from other sources has overwhelmed the depressing effects on the economy of the import surge. Because the ILI includes non-orders series as well as order series, it accurately reflects this strength in the economy. (In fact, through its effects on interest rates and the dollar exchange rate, the strength of demand in these other sectors has contributed to the surge in imports.)

Inflation and Supply Shocks

The ILI's component series were selected primarily on the basis of their records over the 1947-70 period. Peacetime business cycles in that period took place in an environment of low inflation, and were driven primarily by "shocks" to aggregate domestic spending as government and private sector behavior shifted. Since 1970, the American economy has also been buffeted by disturbances in aggregate supply and by shocks originating externally. Moreover, since the late 1960s, the underlying and observed rates of inflation have been through three cycles: the late 1960s rise that culminated in a fall when price controls were imposed in 1971; the mid-1970s rise brought on by OPEC, and the subsequent fall; and the rise in the late 1970s, again associated with OPEC; and the dramatic decline since 1980. These alternating periods of relatively high and low inflation make interpretation of the index as currently constructed problematic.

The level of common stock prices, percent changes in sensitive materials prices, and percent changes in private credit are three series included in the index that can distort the index as an indicator of real activity because they are not adjusted for changes in the overall level of prices. When variations in the inflation rate are relatively small, these distortions are relatively unimportant. But suppose there were a sudden large drop in inflation from an average rate of 10 percent to five percent. After the adjustments to this new situation, materials prices and credit growth rates each would be five percent lower than before. Although these lower growth rates would not indicate weaker real growth in the demand for or supply of materials or credit, their inclusion in the ILI would tend to depress the level of the index.

Similarly, the Standard and Poor's 500 stock price index enters the ILI in units unadjusted for the higher level of aggregate prices. If stock prices generally rise one-for-one with the aggregate price level, the unadjusted stock price index would rise, other things being equal, at the rate of inflation. This will tend, unduly, to elevate the ILI even if the real value of equities is unchanged. In the post-1980 period, when inflation slowed dramatically but the price level continued to rise, the effects of these forces would presumably have tended to offset each other to an unknown extent.

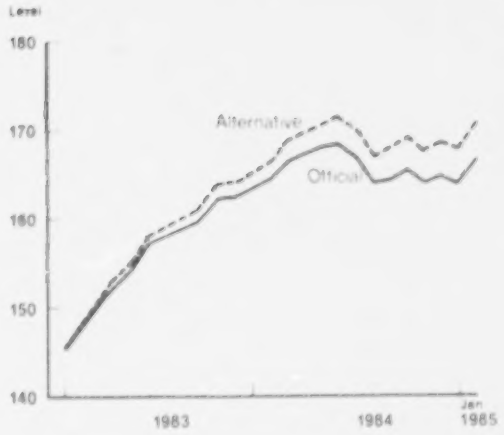
Even adjusting materials price inflation for general inflation may not convert it into a reliable signal when there are shocks to aggregate supply as well as to aggregate demand. If there were only demand shocks, the inflation-adjusted, or rela-

tive, price of materials may bear a consistent relation to aggregate economic activity. For example, if such prices rose quickly and generally in advance of increases in aggregate demand and output, they would put upward pressure on the ILI. However, if there were a disturbance that reduced the supply of raw materials, the relative price of this supply would also rise, but tend to be associated with lower economic activity. In this case, the ILI again would show an increase even though economic activity would have weakened. This is what happened both in the middle and late 1970s when the world price of oil skyrocketed. The possibility of simultaneous supply and demand shocks makes it difficult to interpret what movements in this component imply about the future state of the economy without supplementary information on the source of such movements.

An Alternative Index

The chart plots the official ILI and an alternative that makes a rough attempt to compensate for the fact that the rates of change in materials prices and in private credit in the index are not adjusted for inflation. As explained earlier, a decline in the economy-wide rate of inflation--such as occurred in 1983-84--would show up as a fall in the ILI, even though economic activity might be unaffected. To remove this anomaly, the new series adjusts the index upward to offset the decline caused by falling inflation. In other words, it is what the index would be if the core, or underlying, inflationary rate had not changed. Since the underlying inflation rate fell an average of 0.1 percent each month in the period 1983-1984, the adjustment consists of adding successive increments of 0.1 percent each month to the rates of growth of materials prices and credit over the period, and then re-computing the ILI on the basis of these new series. Since the actual inflation rate has fallen even further than the core rate, using the actual rate to adjust the index would provide an even bigger boost to the alternative index. Deflating the level of stock prices, on the other hand, would move the alternative index closer to the official index.

Has the Index of Leading Indicators Receded?



The alternative index rises three percent more than the official index over this short period, and although both measures reached their highest levels last May, the alternative index had virtually reattained its peak level by January, while the official index remained somewhat below its peak.

Thus, the alternative index suggests that the official index may not be issuing a sufficiently optimistic signal about the upcoming condition of the economy. As long as the inflation rate declines, the divergence between the two measures will increase. Over periods as brief as a couple of months, these two indexes are likely to behave similarly because the majority of their component series are specified in real terms; that is to say, abstracting of inflation. Only sizeable changes in the prevailing inflation rate, which usually take a number of months to occur, will lead to noticeable differences. But even without modifications for the effects of changing inflation rates, the index of leading economic indicators still provides valuable information about the future state of the economy.

NEW DEVELOPMENTS

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs, and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

CONSTRUCTION - Construction began on the Arizona State University Research Park June 18 with the groundbreaking for the Transamerica Research Center which is being built and will be managed by Transamerica Realty Services. This will be a 50,000-square-foot, $5 million research center and the entire building will be for lease by smaller research and development (R&D) firms. Reginald Owens, executive director of the research park, says that what is important about the Transamerica Research Center is that it will help the research park accommodate smaller R&D firms which could not afford the expense of constructing their own buildings.

Construction is under way on the second phase of the Phoenix Tech Center, an industrial facility exclusively for high-technology users. The $9 million addition to the center at Elliot Road and Interstate 10 is expected to be completed in November, according to John Lewis, vice president of the contractor, Koll Co. The new construction will include three research and development buildings similar to those built in the first phase. The three will total 134,000 square feet.

Ground was broken for a $12.7 million military helicopter training facility to be constructed north of Pinal Airpark at Marana. Operations at the 161-acre site, where scout and attack helicopter pilots will be trained by the Army National Guard, are scheduled to start October 1, 1986. About 600 students will be trained each year.

The joint-venture partnership of Ocotillo West announced plans for a new 2,700-acre mixed-use development in Chandler. They hope to attract the kind of light, "clean" industry found in California's Silicon Valley--and the high-paid employees of these firms as residents. Touted as a "new town" within the city of Chandler, the Ocotillo development takes the concept of a self-contained community a step further in this market. When completed, the development bounded by Alma School, Price, Chandler Heights, and Queen Creek roads will consist of approximately 66 percent residential use (including open space); 25 percent employment, commercial, office and special use; and 23 percent in recreational areas. Motorola's new Government Electronics Group facility, under construction on the north side of the development, will eventually employ about 6,000 people. Guy Donahue, an Ocotillo West partner, said that no other commitments have been made by business to relocate to Ocotillo, but he envisions a community that will accommodate companies such as Intel and other high-tech firms. Land planner, Wayne Smith said, "Motorola gave great confidence in the project with the decision to build in the area." City officials said they welcome the development with "open arms," and so they should. According to Donahue, the projected assessed value on the land in Phase I is $250-300 million, and upwards of $600 million for the entire 5,000-acre project.

A group of business leaders has announced plans to redevelop two six-block areas downtown into $500 million worth of office, hotel, retail, and cultural facilities. The plan would turn Fillmore Street into a wide boulevard and close other streets. Stephen Dragos, executive vice president of the Phoenix Community Alliance, said whether any other city help would be needed would be up to the developers, who are still being sought. He emphasized, however, "It would be better for us and better for the city if we could do it privately." The two projects, called the Central Avenue and Superblock mixed-use projects, are planned around the land holdings of past and present Alliance members: Arizona Public Service

Co., Phoenix Newspapers, Inc., and the Snell and Wilmer law firm. The first project, the Superblock, is a 16-acre site bounded by Van Buren and Fillmore streets and Third and Fifth streets. The second project, the Central Avenue development, is bounded by First Street and First Avenue from Van Buren to Fillmore. As with the Superblock, nearly 75 percent of the land is in the hands of four owners in or cooperating with the Alliance. The developers of each project hope to acquire the remaining parcels of land within the areas, but if they are unsuccessful, they will ask the City Council to condemn the property to make it available.

The Arizona NFL Expansion Franchise Ltd. bills itself as the group most likely to entice an NFL franchise to Phoenix. The group is headed by Joe Foss, former commissioner of the American Football League, and Bart Starr, former coach and quarterback of the Green Bay Packers. On June 17, in a meeting before business and government leaders, members of this group presented their proposal for building a 65,000-seat, open-air football stadium and, in a second phase, a 35,000-seat domed baseball stadium. John Colbrunn, a partner in the group, said, "The NFL has said more than once that part of the problem with (establishing a team in) Phoenix is that they don't know with whom they're dealing and that everybody has a (different) plan." Even Mayor Terry Goddard was enthusiastic, saying, "This is clearly the most serious and completely thought-out effort I have seen," though he adds, "But there are others, and that's why we have to go the RFP (request for proposals) route."

The stadiums would be built on 60 acres bordered by 13th and Fourth avenues and Jefferson and Harrison streets. Business leaders have taken the lead in pushing for a stadium and an accompanying football team, but the City Council, through its zoning authority and other powers, holds the key to determining whether a stadium will be built in Phoenix.

EDUCATION - An investment in college educations pays off in lower unemployment, according to research by Anne Young of the Bureau of Labor Statistics. Her statistics showed that nearly one out of every 10 men without any college training (9.5 percent) was unemployed last year. But only 2.7 percent of men with a college degree--about one in every 37--were unemployed. Even among men with some college training, the unemployment rate was still about half of those without any college, 5.2 percent. Men with more education also were more likely to be in the labor force, that is, working or looking for work. About 85 percent of men with no college training were in the labor force, but 95 percent of men 25 to 64 years old with four years of college were either employed or actively looking for a job.

Women with a college education also are employed more. Only about half of the women with no college training (57 percent) are in the labor force, and 7.6 percent are unemployed. Note that even without any college, working women have about a 2 percent lower unemployment than men without any college. But with four years of college, more than three-quarters of women 25 to 64 years old (78 percent) are in the labor force, and only 2.7 percent of them are unemployed. The low unemployment rate for college-educated women is identical to that of men.

	No College	4 Years College
MEN		
Percent in Labor Force	85.0	95.0
Percent Unemployed	9.5	2.7
WOMEN		
Percent in Labor Force	57.0	78.0
Percent Unemployed	7.6	2.7

One reason college-trained people are seldom unemployed is because they have more jobs to choose from. If no work is available in their chosen field, they can find work as sales clerks or cab drivers until something better turns up. But a factory worker left unemployed because the plant closed has an almost impossible task of making the transition to an office. However, if present trends continue, the future

employment picture looks bright because the number of college-educated people has been growing rapidly. A college education may look expensive, but it is dirt cheap when compared to a 9.5 percent unemployment rate.

REHIRES - Gates Learjet in Tucson announced in mid-May that they were resuming production of their largest jets, and by the end of May had rehired 60 of the 400 workers they hope to rehire by the end of this year. A company spokeswoman said 78 percent of the former employees contacted agreed to come back. Many are leaving other jobs to do so. People who do finishing work on the jets were the last to be laid off and are the first being rehired. Reinstated workers retain seniority and accrued benefits.

LAYOFFS - Marathon Steel Co. announced in mid-June that it would lay off 410 workers and discontinue operations at its steel-rolling mill and production facility in south Tempe. The rolling mill, at Kyrene and Elliott roads, produces steel bars used in construction and grinding balls used in mining. Marathon president Frank Biega said, "The plant would need substantial upgrading of its steel-making equipment to overcome its present high operating costs. However, such improvements cannot be justified economically because of excess production in the Southwest and substantial imports of foreign steel, which have resulted in depressed prices for the mill's products. As a consequence, the rolling mill division has been unprofitable for the past several years." Roy Santa Cruz, subdistrict director for the United Steelworkers of America in Phoenix, which represents about 360 of the workers who will be laid off, said that if Marathon follows through with plans to close the plant, he hopes to negotiate a settlement of several thousand dollars to help retrain workers who would lose their jobs.

TOURISM IN TUCSON - Tourism-related jobs should total 39,300 in Pima County this year, up 80 percent compared with 1975, and tourists are expected to spend up to $1.1 billion this year, according to a City Planning Department study released May 21, 1985. The figures rank tourism near high-tech manufacturing and government as one of the county's largest employers, according to David Taylor, director of economic planning and research for the 75-page county-wide study. This study was compiled by the city of Tucson in conjunction with the University of Arizona's Division of Economics and Business Research. Some of the major findings of the report included:

- One out of every 6.5 jobs in Pima County in 1985 will be tourism-related, and travel and tourism expenditures this year will increase personal income by $377.2 million.
- The 40,000 or so jobs generated by the tourism and travel industry in 1985 will double in the next 20 years.
- For every job created directly by tourism in lodging, restaurants, transportation, and entertainment facilities, about two others are eventually created indirectly in support services.
- The projected level of tourism and travel industry revenues to the city of Tucson this year will be about $14.4 million and Pima County will get about $30.5 million. By the year 2000, revenue to the city will have tripled, and for the county the revenue will have increased about eight-fold.
- Visitor expenditures in Pima County are projected to be between $935 million and $1.4 billion. By 2000, the report projects expenditures to be between $3.1 billion and $3.7 billion.
- Because of the tourism and travel industry expenditures in Pima County, the total personal income impact of this industry in Arizona, including Pima County, will be $431 million this year and is projected to increase to $3 billion by the year 2000.

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